

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for oxidizing ~~a starting material~~ cyclohexane with ~~an oxidizing agent~~ air to obtain a product ~~which~~, wherein said process comprises
 1. carrying out the oxidation in a ~~reaction apparatus~~ rectification column
which ~~has~~ comprises
 - (a) a bottom region at the lower end,
 - (b) a top region at the upper end ~~and,~~
 - (c) a reaction zone between the top region and the bottom region, and
 - (d) and 20 to 40 theoretical plates.
 2. maintaining the reaction mixture in the boiling state in the reaction zone
by means of a bottom evaporator, and
 3. introducing ~~oxidizing agent~~ air into the reaction zone in at least two
substreams;

wherein

said oxidation is carried out in the presence of a homogenous catalyst;

a product-containing reaction mixture is continuously withdrawn from said bottom region
of said rectification column;

water is by-produced in said oxidation;

unconverted cyclohexane and said water are continuously removed during said
oxidation from the top region of said rectification column;

said unconverted cyclohexane and said water are separated by means of a phase
separator; and

said unconverted ~~starting material~~ leaving the reaction zone cyclohexane is recycled into
said reaction zone via said top region of said rectification column as reflux

~~wherein said oxidizing agent is a molecular oxygen-containing gas;~~
~~wherein said reaction apparatus is a rectification column; and~~
~~wherein a product-containing reaction mixture is withdrawn below the reaction zone.~~

Claims 2-7 (Cancelled)

8. (Currently Amended) ~~A process as claimed in~~ The process of claim 1, which wherein
said process is carried out at a temperature in the range of from 10 to 300°C, as measured
in the reaction zone.

Claims 9-11 (Cancelled)

12. (Currently Amended) ~~A process as claimed in~~ The process of claim 1, wherein the
starting material is fed to the reaction apparatus above the oxidizing agent when said
starting material has a higher-boiling point than said oxidizing agent and wherein the
oxidizing agent is fed to the reaction apparatus above the starting material when said
oxidizing agent has a higher-boiling point than said starting material.

Claims 13-20 (Cancelled)